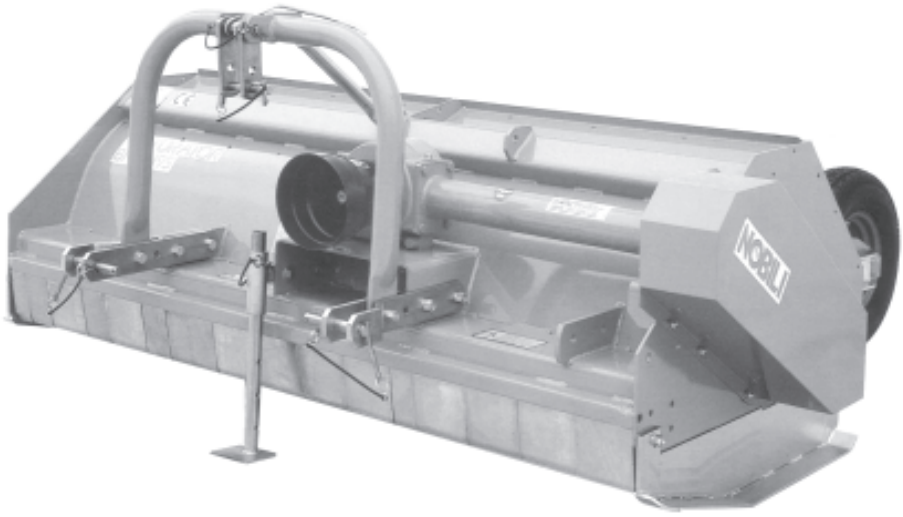
NOBILI COSTRUZIONI MECCANICHE PER L'AGRICOLTURA ®

Shredder

type: **BNU**

04.09.2009



GB

Instructions for use and maintenance

INTENDED USE

NOBILI S.p.A. - Agricultural Machinery Manufactures - wishes first of all to thank you for the wise choice you have made in purchasing one of its machines, whilst assuring you that the maximum efforts have been put into making the machine as advanced and practical as possible.

In order to get the best use out of the machine and prolong its working life, NOBILI S.p.A. has decided to give a few practical hints to help you use it to its full potential and to help you avoid those problems that are due, in the majority of cases, not to manufacturing defects, but mainly to negligence and carelessness.

NOBILI BNU multivalent shredders have been designed for treating: maize stalks, beet leaves, potato leaves, grass, etc.
Machine tools - blades or rams - must NEVER touch the ground.
The correct use of the machine includes:

- following carefully manufacture's instructions regarding use, maintenance and care of your machine.
- using original spare parts only, as well as original or approved units and accessories.

The use of the machine, its maintenance and repairs are reserved to specialized people, who are familiar with the technical data and features of these machines.

CORRECT USE OF THE MACHINE

WARNING: Before using the machine it is necessary to check the following points:

1°) The machine should be included in the weight and overall dimension limits mentioned in the tractor use manual, regarding the equipped tools

2°) In case of rear coupling, with the machine raised from the ground, check that on the tractor front axle (steering) there is a residual weight not lower than 20% of total weight.

EXAMPLE
Total weight = Tractor weight + Machine weight = 2500 Kg + 800 Kg = 3300 Kg
Residual weight on the steering axle = 20% di 3300 Kg = 660 Kg

IT IS NOT ALLOWED:

- **Working on stony or uneven grounds.**
- **Transporting persons, animals, or things.**
- **Towing cars or equipment.**
- **Working near houses or roads.**
- **Fitting other equipment which may change the machine's characteristics.**
- **Machine tools must NEVER touch the ground.**

WARNING! THIS SYMBOL, USED THROUGHOUT THIS MANUAL, MARKS INSTRUCTIONS THAT MAY AFFECT YOUR SAFETY, OTHER PEOPLE'S SAFETY, AND THE EFFICIENT WORKING OF THE MACHINE. ALWAYS FOLLOW THE SAFETY INSTRUCTIONS SCRUPULOUSLY.

USER'S MANUAL No. AO 914

SHREDDERS: BNU 125 - 140 - 160 - 195

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DECLARATION OF CONFORMITY CE

Dichiarazione di Conformità CE
ai sensi della direttiva CEE 89/392
e successive modificazioni.
Il costruttore:

Declaration de conformité à la directive "machines" CE
(Directive 89/392/CEE modifiée)
et aux réglementations prises pour sa transposition
Le fabricant:

EC declaration of conformity CE
(conforming to directive
89/392/EEC amended)
The manufacturer:

EG-Konformitätserklärung CE
(entsprechend der EG-Richtlinie
89/392/EWG und deren Änderungen).
Der Hersteller:

NOBILI S.p.A.

Via Circonvallazione Sud, 46 40062 MOLINELLA (BO)

dichiara che la macchina sotto descritta:	déclare que la machine désignée ci-dessous:	declares that the product described hereafter:	erklärt in alleiniger Verantwortung, daß das Produkt:

Tipo - Type
Type - Typ:.....

N° - N°
No - Nr.: .....

TRINCIA
BROYEUR
SHREDDER
MULCHGERÄT

FAC-SIMILE

è conforme ai Requisiti essenziali di Sicurezza e di Tutela della Salute di cui alla Direttiva CEE 89/392 e sue successive modificazioni, nonché ai Requisiti di cui alle seguenti Direttive CEE: *86 /188 /CEE* Per la verifica della Conformità di cui alle Direttive sopra menzionate, sono state consultate le seguenti: Norme Armonizzate: *EN 294 EN 349* Norme e specifiche Tecniche:	-est conforme aux dispositions de la directive européenne *89/392/CEE* modifiée ainsi qu'à celles de la directive: *86/188/CEE.* -est conforme aux dispositions des normes européennes harmonisées suivantes: *EN 294 EN 349* -est également conforme aux normes nationales et aux dispositions techniques suivantes:
to which this declaration applies, conforms to the essential health and safety requirements of European Council Directive 89/392 CEE amended and conforms also to the requirements of Directive *86/188/EEC.* -to conform to these essential health and safety requirements, the provisions of following harmonized standards were particularly considered: EN 294 EN 349 -the provision of following national standards and specifications were also considered:	auf das sich diese Erklärung bezieht, den einschlägigen grundlegenden Scherheits- und Gsundheitsanforderungen der EG-Richtlinie 89/392/EWG und deren Änderungen, sowie den Anforderungen der einschlägigen EG-Richtlinie 86/188/EWG entspricht. Zur sachgerechten Umsetzung der in den EG-Richtlinien genannten Sicherheits- und Gesundheitsanforderungen wurden die harmonisierten Normen: *EN 294 EN 349* sowie die nationalen Normen und techischen Spezifikationen: herangezogen.

Responsabile della Sicurezza -- Responsable Sécurité et Homologations -- Safety Officer--Beauftragter für Gerätesicherheit

Piccoli Ing. Gastone

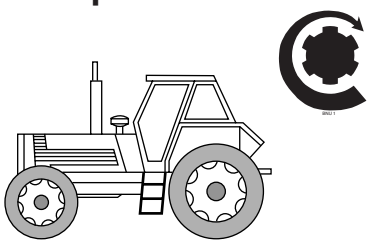
Molinella (BO) Li-Le-Date-Den:.....

In caso di vendita della macchina, la presente dichiarazione deve essere consegnata all'acquirente.
En cas de revente de la machine, la présente déclaration de conformité est a remettre à l'acheteur.
In the case of resale of the machine, this declaration of conformity is to be passed on to the buyer.
Bei Weiterverkauf dieser Maschine ist diese Konformitätserklärung dem Käufer zu übergeben.

TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS		BNU 125	BNU 140	BNU 160	BNU 195
Tractor coupling	Range	1°	1°	1°	1°
P.T.O. speed	r.p.m.	540	540	540	540
Required power	Kw	18	22	26	37
Transport position		Transversal			
Max. transport width	mm	1450	1720	1800	2190
Weight for standard version	Kg	400	440	480	545
Working position		Central		Central or on the right	
Working components	Rams N°	12	16	16	20
	Blades N°	24	32	32	40
Working width	mm	1094	1454	1454	1814
Cutting rim speed	m\sec	69	69	69	69
Rotor speed	G\min	2278	2278	2278	2278
Main drive		Bevel Gear Pair			
Belt secondary drive: type SPBX	N°	3	3	3	4
Cutting height adjustment		Manual			
Rear bonnet		Bolt fastening			
ACCESSORIES					
Rear wheels	N°	2	2	2	2
Rear roller		Yes	Yes	Yes	Yes
Open machine guards		Yes	Yes	Yes	Yes
Product spreader flaps	N°	4	4	4	6
Collecting teeth	N°	8	11	11	13
Resting skids		Yes	Yes	Yes	Yes

540 r.p.m.



Machine power input:

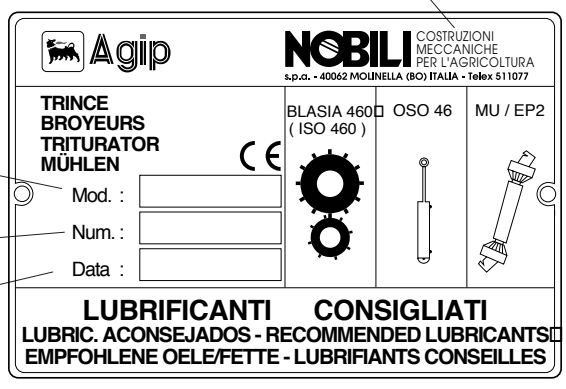
BNU 125 18 Kw 25 HP
BNU 140 22 Kw 30 HP
BNU 160 26 Kw 35 HP
BNU 195 37 Kw 50 HP

MANUFACTURER'S NAME AND ADDRESS

MODEL AND TYPE OF MACHINE

SERIAL NUMBER

YEAR OF MANUFACTURE

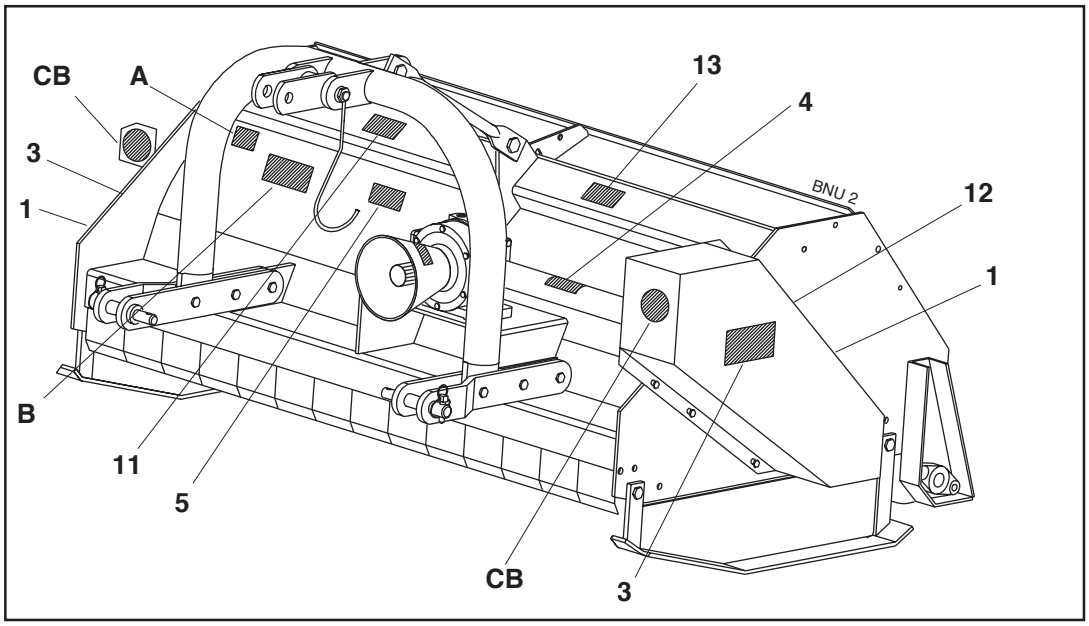


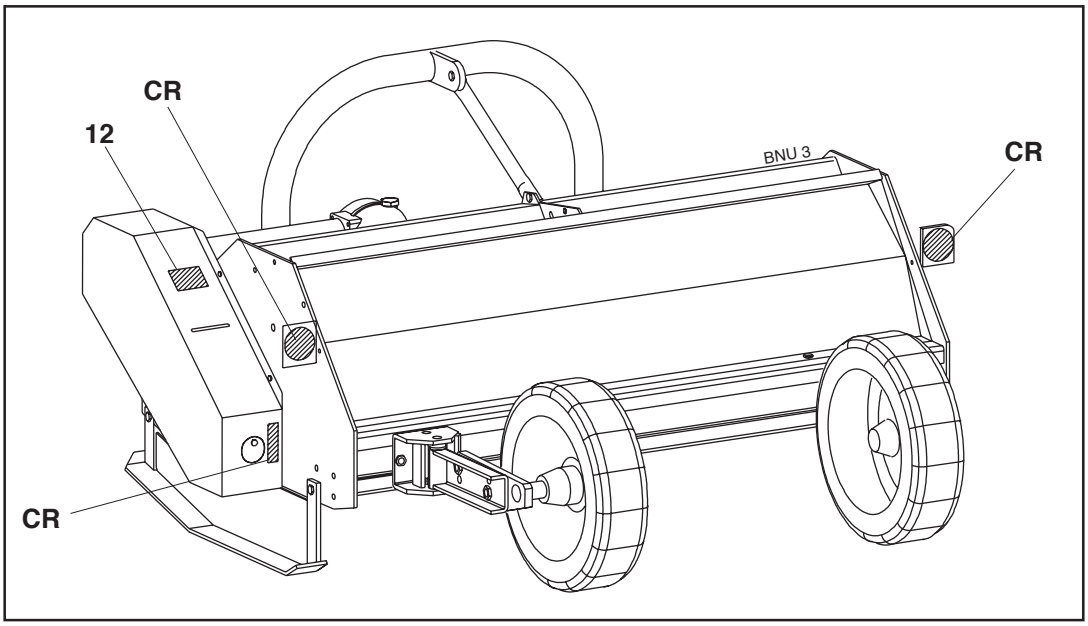
MACHINE IDENTIFICATION PLATE ATTACCHED TO THE FRAME (See Page 6)

ADHESIVE LABELS REGARDING SAFETY AND PROPER OPERATION

A) Machine identification metal plate.
B) Type and model of the machine
CB) White reflectors
CR) Red reflectors

Safety labels are located on the machine according to the pictures below.
Decals have been designed for your safety and for other people's safety.
The machine's owner or the person in charge must be sure the operator has read the Instruction Manual carefully.
Keep decals in good conditions and replace the damaged ones.

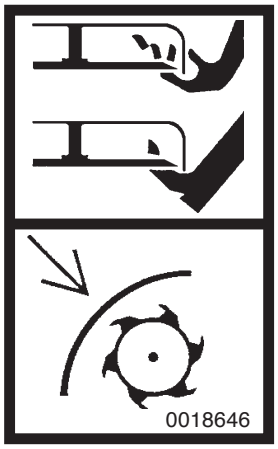




The adhesive labels N° 2 - 5 - 7 - 14 are not applied on the BNU series machine.

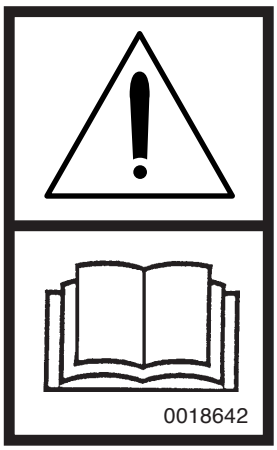
ADHESIVE LABELS

1



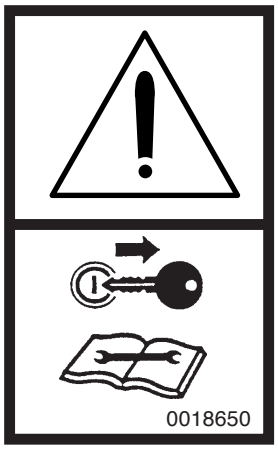
DO NOT REMOVE GUARDS UNTIL ALL ROTATING PARTS ARE IDLE

2



READ THE INSTRUCTION MANUAL BEFORE STARTING THE MACHINE

3

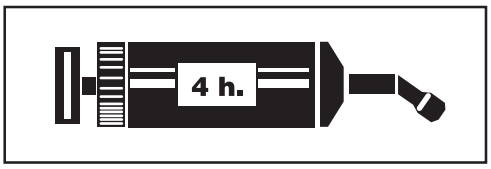


TURN OFF THE TRACTOR ENGINE AND TAKE THE KEY OFF BEFORE SERVICING OR ADJUSTING THE MACHINE

4

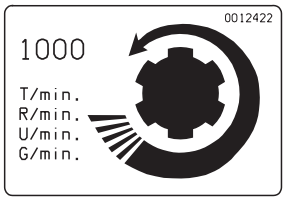
DANGER!
THROWN OBJECTS.
STAND OFF.
DO NOT WORK NEAR BUILDINGS OR ROADS

5



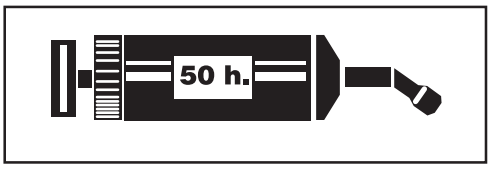
GREASE EVERY **4** WORKING HOURS

6



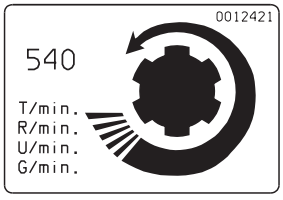
MACHINE SET FOR POWER INPUT AT 1000 r.p.m.

7



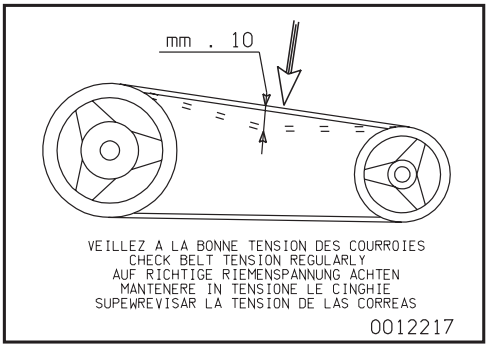
GREASE EVERY **50** WORKING HOURS

8

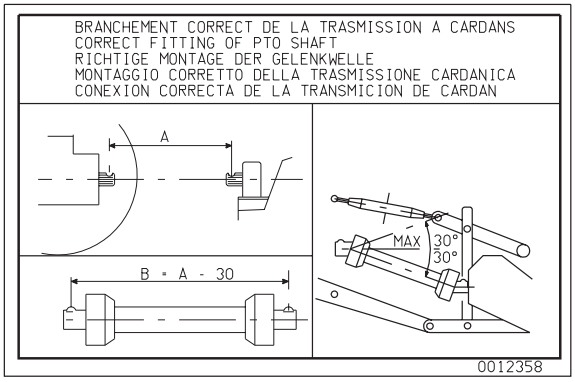


MACHINE SET FOR POWER INPUT AT 540 r.p.m.

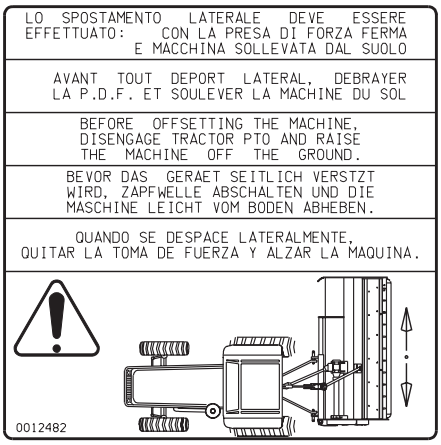
ADHESIVE LABELS


mm . 10
VEILLEZ A LA BONNE TENSION DES COURROIES
CHECK BELT TENSION REGULARLY
AUF RICHTIGE RIEMENSPANNUNG ACHTEN
MANTENERE IN TENSIONE LE CINGHIE
SUPEWREVISAR LA TENSION DE LAS CORREAS
0012217

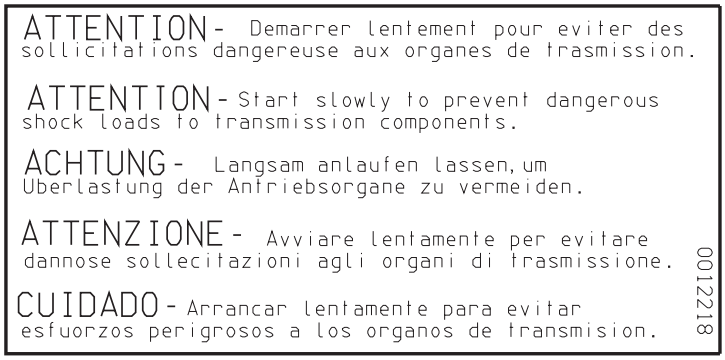
10



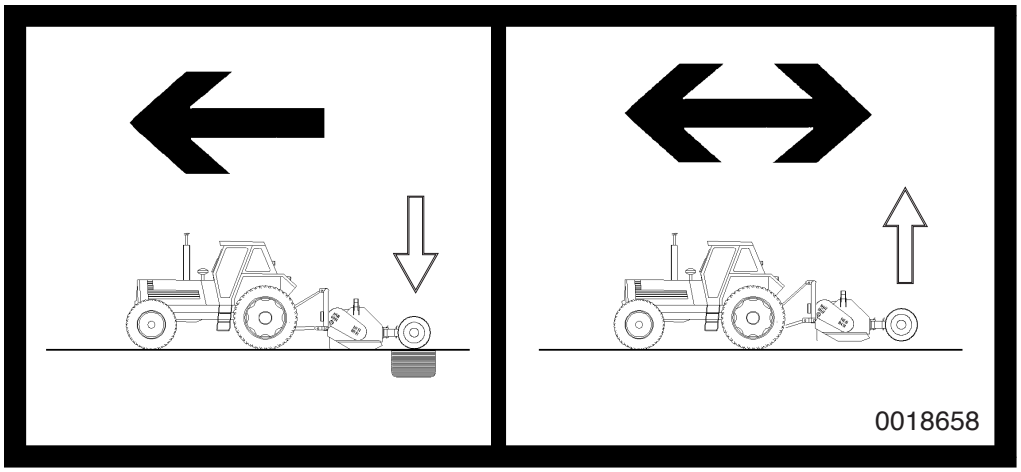
11


LO SPOSTAMENTO LATERALE DEVE ESSERE EFFETTUATO: CON LA PRESA DI FORZA FERMA E MACCHINA SOLLEVATA DAL SUOLO
AVANT TOUT DEPORT LATERAL, DEBRAYER LA P.D.F. ET SOULEVER LA MACHINE DU SOL
BEFORE OFFSETTING THE MACHINE, DISENGAGE TRACTOR PTO AND RAISE THE MACHINE OFF THE GROUND.
BEVOR DAS GERAET SEITLICH VERSTZT WIRD, ZAPFWELLE ABSCHALTEN UND DIE MASCHINE LEICHT VOM BODEN ABHEBEN.
QUANDO SE DESPACE LATERALMENTE, QUITAR LA TOMA DE FUERZA Y ALZAR LA MAQUINA.
0012482

12

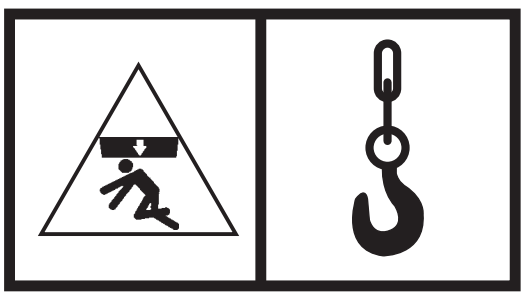

ATTENTION - Demarrer lentement pour eviter des sollicitations dangereuse aux organes de trasmission.
ATTENTION - Start slowly to prevent dangerous shock loads to transmission components.
ACHTUNG - Langsam anlaufen lassen, um Uberlastung der Antriebsorgane zu vermeiden.
ATTENZIONE - Avviare lentamente per evitare dannose sollecitazioni agli organi di trasmissione.
CUIDADO - Arrancar lentamente para evitar esfuorzos perigrosos a los organos de transmision.
0012218

13



LIFT THE MACHINE FROM THE GROUND BEFORE GOING INTO REVERSE OR TURNING SHARPLY.

14



INDICATION OF THE HOOKING POINTS FOR LIFTING THE MACHINE.

15

SAFETY PRECAUTIONS

MANY INDUSTRIAL INJURIES ARE DUE TO THE LACK OF RESPECT OF THE MOST ELEMENTARY SAFETY PRECAUTIONS.

- **Thus it is necessary that whoever needs to work or to carry out the maintenance of the machine, knows the safety precautions described in the manual or on the decals.**

- **Before any cleaning or maintenance operations, it is necessary to lay the machine horizontally on the ground or on strong supports, stop the tractor engine and remove the propeller shaft.**

- **Before beginning work, check: tightening of bolts, integrity and efficiency of guards, right position of safety pins.**

- **Be sure that the tractor meets the CHARACTERISTICS REQUIRED BY THE MACHINE USED.**

- **Keep persons and animals away from the machine before its starting.**

- **Do not leave the machine running without surveillance.**

- **Do not wear clothes which can get entangled.**

- **Do not transport persons or animals on the machines.**

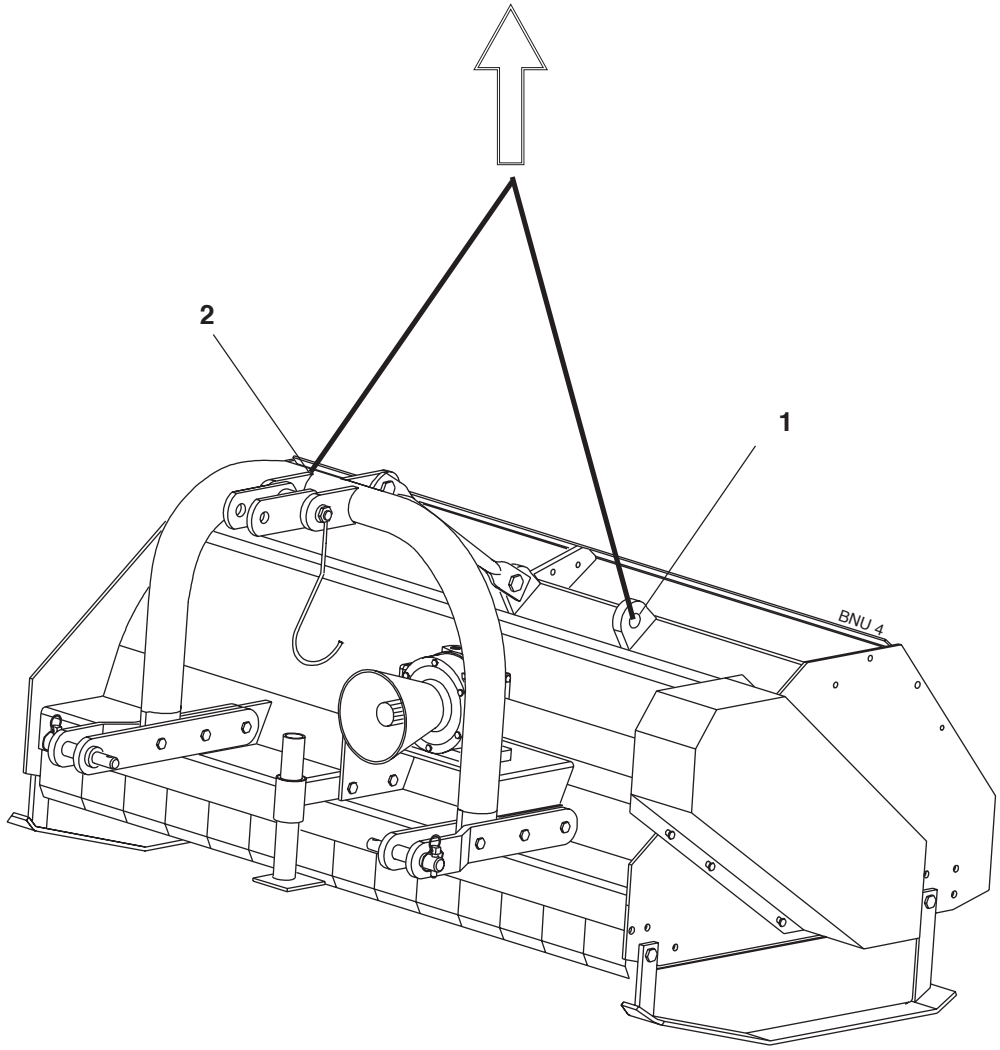
- **Check that the PROPELLER SHAFT IS MARKED CE AND THAT, DURING ASSEMBLY, THE GUARDS ARE PROTECTED AGAINST ROTATION with the appropriate chains.**

- **Be particularly careful when you work on cat's backs or ditches.**

- **Be particularly careful when you work on cat's backs or ditches.**
  The uneven ground can make the guards temporarily inefficient and allow the projection of stones or fragments in a wide range (See page 11).

- **Be particularly prudent during the road-transport of the machine.**
  The user must be sure that the transport complies with the highway Code of the Country where it is CARRIED OUT.

HOISTING THE MACHINE



MACHINE	WEIGHT Kg
BNU 125	400
BNU 140	455
BNU 160	480
BNU 195	545

Available hitch points:

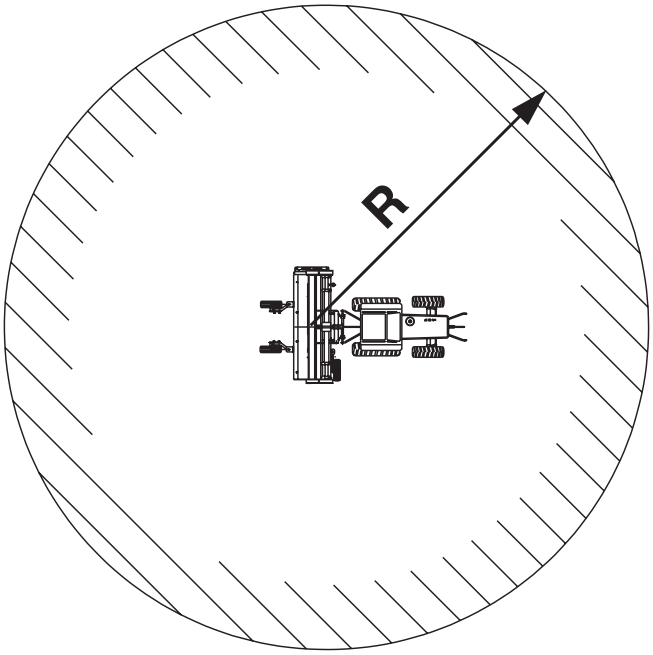
1) Connecting metal flange for tie rod, 3rd point

2) Link rod pin, 3rd point

LOCK THE WHEEL ARMS SO AS TO PREVENT THEIR ROTATION (If mounted).
USE HOISTING EQUIPMENT ACCORDING TO THE RULES IN FORCE AND RIGHT FOR THE MACHINE WEIGHT.
WARNING: BE CAREFUL AS ACCESSORIES AFFECT MACHINE BALANCE.
NEVER LIFT UNBALANCED LOADS.

DANGEROUS AREAS

Before shredding: Keep all persons and animals away from the machine danger zone. This zone is defined by a radius (R) of 50 m (164') around the working line of the machine.



The use of the machine hood must be only destined to maintenance operations.

Before maintaining the machine, stop the tractor motor, turn off the engine, remove ignition key and wait until all moving parts have come to a complete stop.

It is strictly forbidden to leave the hood open when the machine is operating and its parts are moving.

The misuse of the machine may cause involuntary projection of stones and other foreign objects, and consequently damages to persons, things and animals.

RECOMMENDATIONS FOR USE

ALWAYS STOP THE TRACTOR ENGINE BEFORE CARRYING OUT ANY WORK OF ADJUSTMENT OR CLEANING ON THE MACHINE.

BEFORE STARTING THE ADVANCING OF THE MACHINE, WAIT THAT THE ROTOR REACHES THE R.P.M.

WORK ONLY ON STRAIGHT LINE, LIFT THE MACHINE FROM THE GROUND BEFORE CHANGING DIRECTION.

DO NOT ACTIVATE THE SIDE DISPLACEMENT WITHOUT LIFTING THE MACHINE.

IF DURING THE LIFTING FROM THE GROUND, THE JOINTS OF THE PROPELLER SHAFT ARE BENT TO MORE THAN 40° (STILL P.T.O.) REMOVE THE SHAFT OF THE TRACTOR P.T.O.

DURING WORK, BLADES OR RAMS SHOULD NOT TOUCH THE GROUND.

DAILY CHECK THE WEAR OF BLADES OR RAMS.
IN CASE OF IRREGULAR CONSUMPTIONS OR BREAKS, IMMEDIATELY SUBSTITUTE THE DAMAGED PARTS. USE ONLY ORIGINAL SPARE PARTS.

AFTER THE FIRST HOURS OF WORK (3 HOURS) CHECK THE TENSION OF THE BELTS, DAILY CONTROL THE TIGHTENING OF ALL NUTS AND BOLTS AND THE TENSION OF THE BELTS.
VERIFY SPECIALLY THE TIGHTENING OF BLADE BOLTS (See page 13).

CHECK THAT THE SAFETY CHAINS OF PINS AND THE ANTIROTATION CHAINS OF THE PROPELLER SHAFT GUARDS ARE INTACT AND COUPLED UP.

CLEAN, WASH, GREASE THE INSIDE AND OUTSIDE OF THE MACHINE AT REGULAR INTERVALS. SPECIALLY REMOVE THE MATERIAL SETTLED ON THE ROTOR AND BLADE SUPPORTS.

BEFORE A LONG PERIOD OF INACTIVITY THE MACHINE SHOULD BE CLEANED AND GREASED. PUT IN A PLACE PROTECTED FROM BAD WEATHER.

THE USER IS COMPLETELY RESPONSIBLE OF ROAD-TRANSPORT. HE MUST CHECK THE COMPLIANCE WITH THE HIGHWAY CODE IN FORCE IN HIS COUNTRY.

IF A TRACTOR WITHOUT SOUNDPROOF AND PRESSURIZED CABIN IS USED, IT IS NECESSARY THAT THE OPERATOR USES INDIVIDUAL PROTECTION SYSTEMS:

1) **PROTECTION EARPIECES FOR NOISE, IF STANDARD EXPOSURE LEVELS ARE EXCEEDED.**
2) **DUST MASK, IF A GREAT QUANTITY OF DUST IS RAISED BECAUSE OF EITHER THE KIND OF PRODUCT WORKED OR VERY DRY GROUND OR USE OF OPEN MACHINE.**

IF DURING WORK YOU NOTICE UNUSUAL VIBRATIONS OF THE MACHINE, STOP IMMEDIATELY AND CHECK THE INTEGRITY OF ROTOR AND BLADES OR RAMS.

EXCESSIVE VIBRATIONS CAN CAUSE PHYSICAL DAMAGES TO THE DRIVER.

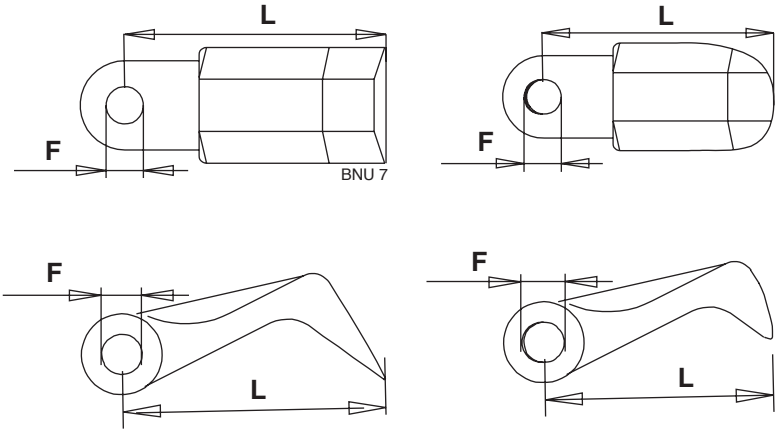
THE MANUFACTURER DISCLAIMS ALL RESPONSIBILITY IN CASE OF DAMAGES OR ACCIDENTS CAUSED BY AN INAPPROPRIATE USE OR NON-OBSERVANCE OF RECOMMENDATIONS INCLUDED IN THE USE AND MAINTENANCE MANUAL.

CHECK BLADES OR RAMS AND THEIR FASTENING ELEMENTS

Blades or rams: to be checked always before using the machine
to be checked immediately after an obstacle

Shredding quality, machine integrity and **safety** depend on the care which will be devoted to these elements. They must be replaced immediately if damaged.
Normal wear (specially rapid on sandy grounds or working with the machine too low) and bumps against obstacles can cause distortions or cracks in the blades or rams, which can lead to:

- Worsening in the work quality,
- Increase in vibrations and consequent mechanical damages in the machine,
- Total or partial break of the blades and rams with consequent **projection of fragments at high speed.**

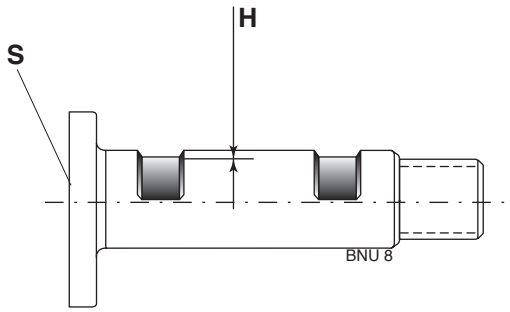


MACHINE	BNE VK VKD VKE WMU VKR	BNU BNG NK
INITIAL DIAMETER OF THE HOLE	0.63"	1"
MAXIMUM DIAMETER ADMITTED	0.71"	1.07"
INITIAL LENGTH OF BLADE OR HAMMER	4.33"	7.09"
MINIMUM LENGTH ACCEPTABLE	3.54"	5.92"

Worn blades or rams:
The hole (**F**) of the pin should not be ovalized over 2mm from the original diameter.
The length (**L**) of the blade or ram should not be reduced over 20 mm.

The pin fixing can be carried out with split pins or nuts, according to the model of the machine.

Pins should be replaced if:
They are clearly bent or damaged in the thread: in particular check (if welded) the welding integrity of the plate (**S**).
The tracking made by the wear of the blade or ram (**H**) is greater of 2 mm.



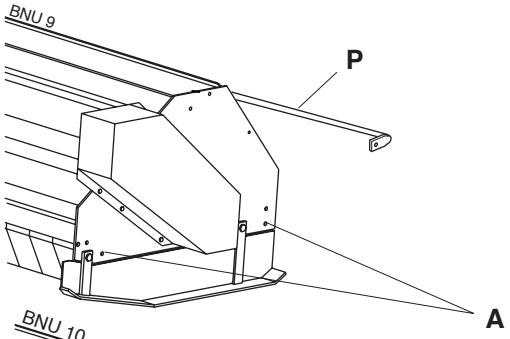
During assembly:

The selflocking split pins or nuts should be **changed every time**.
Torque wrench setting for M16 nut: 100 Nm
Torque wrench setting for M20 nut: 250 Nm
Check that the pin with tooth or the pin with hexagonal head, CANNOT rotate in their seat on the support, because this could cause an abnormal consumption.

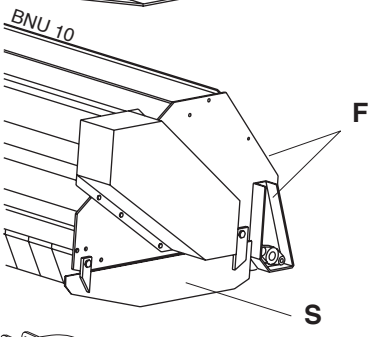
INSTRUCTIONS
FOR SKIDS, ROLLER, WHEELS ASSEMBLY

Whenever the machine is delivered with skids, roller and wheels not mounted because of shipping requirements.

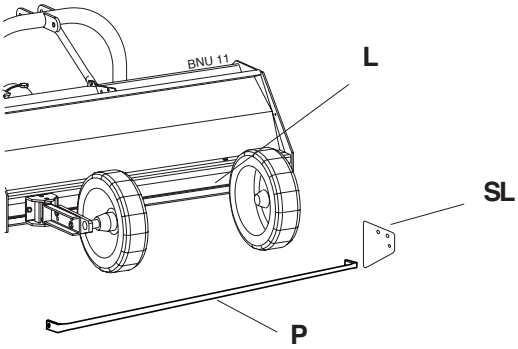
In order to use the machine with roller or wheels, mount side guards (SL), according to CE rules.



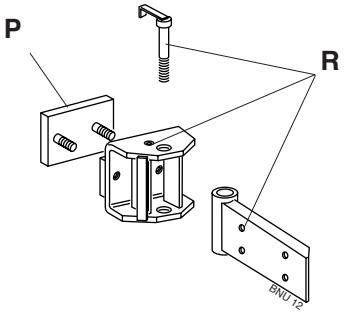
Skids assembly:
Make use of holes (**A)** on the lateral sides.
On the skids, select the proper holes so as to get up the machine from the ground, at the height required (See page 17).
Mount guard (**P**).



Roller assembly:
Make use of the pair of holes (**F**) on the lateral sides.
On the roller support, select the proper holes so as to get up the machine from the ground, at the height required See page 17).
Mount guards (**SL**) on the lateral sides.

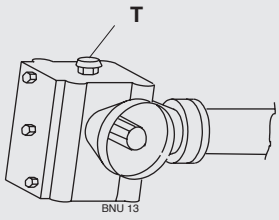


Wheel unit assembly:
Position, inside the rear beam (**L**), the plate (**P**).
Position wheel unit (**R**) against beam (**L**) so as to get the track desired. Tighten fastening nuts.
For any height adjustment, see page 17.
Mount guards (**SL**) on the lateral sides.
Mount guard (**P**).



TYRE FEATURES				
Machine	TYPE OF TYRES	DIAMETER	WIDTH	INFLATION PRESSURE (bars)
BNU 125-160-195	145_10 4Pr	510	137	3.0
BNG 230	145 _10 4Pr	510	137	3.0
BNG 270	185 / 70_13	590	184	3.5
BNG 310	205 / 70_14	652	206	3.5
Type and size of tyres may change without prior notice				

Before connecting the machine to the tractor, **make sure the transmission unit is equipped with oil drain plug (T).**
For shipping requirements the machine may be shipped in vertical position; in such a case, a blind plug is fitted on the transmission unit so as to avoid oil overflow. Therefore, replace the fitted plug with the drain plug contained in the proper packing joined to the tie rod, 3rd point.

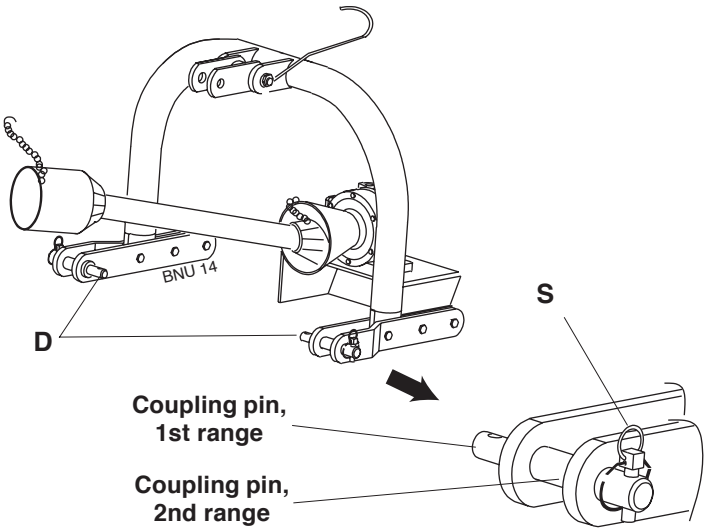


COUPLING TO THE TRACTOR

THE MACHINE HAS BEEN DESIGNED FOR COUPLING TO THE TRACTOR PROVIDED WITH REAR ELEVATOR.
WARNING: IN THE THREE-POINT HITCH AREA YOU MAY RUN THE RISK OF HARMING YOURSELF.
WARNING: GET OUT OF THE THREE-POINT HITCH AREA WHILE THE ELEVATOR IS RUNNING!

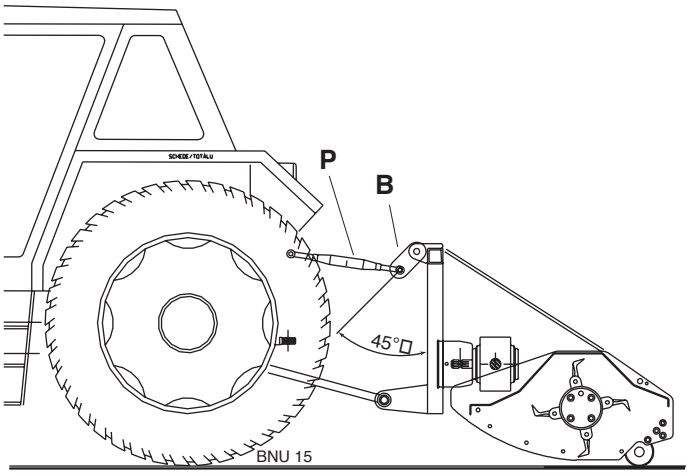
Machines series BNU are provided with two different hitch positions; select between the central position and the lateral one. See page 18.

Before coupling the machine to the tractor, make sure the drawbar is in the required position.



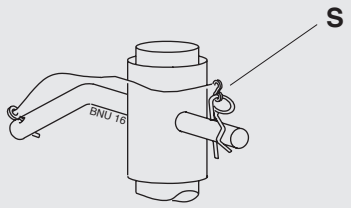
Fir the elevator links and check that they are at the same height from the ground, in the lower couplings.
Fit pins (**D**), and safety pins (**S**).

Connect the 3rd point tie rod (**P**) to the connecting rod (**B**) by the proper pin; adjust the length of the 3rd point tie rod so as to make the connecting rod (**B**) reach a 45° angle when the machine is in the working position.

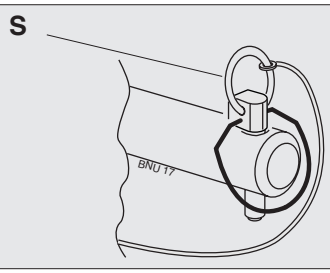


If you run the machine without connecting rod, or with connecting rod blocked, the warranty will be voided, as the roller or wheel supports could have been damaged irreparably by such operations.

Get up the machine from the ground and adjust cutting height (please see: working height adjustment on page 17).
Raise foot and secure it.
Adjust machine and elevator attitude by placing the machine horizontally or slightly higher on the rear side so as to make material infeed easier.

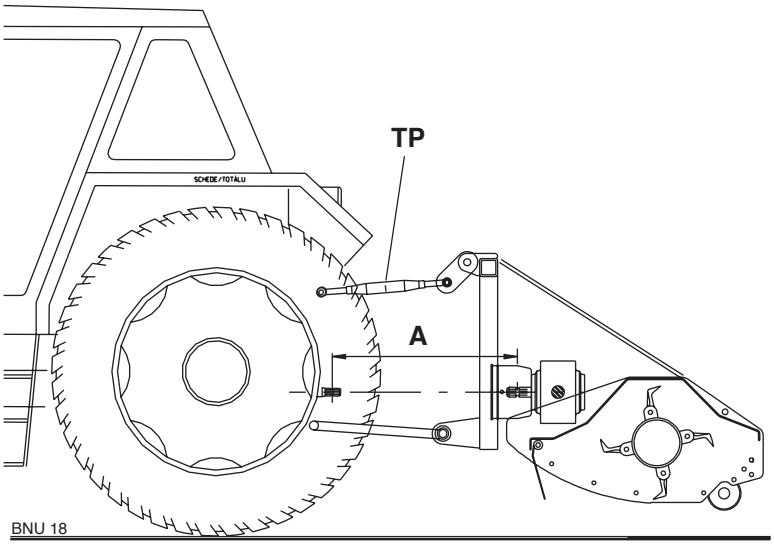


SECURE ALL PINS WITH SAFETY PINS (S)
REPLACE LOCKS IF DAMAGED



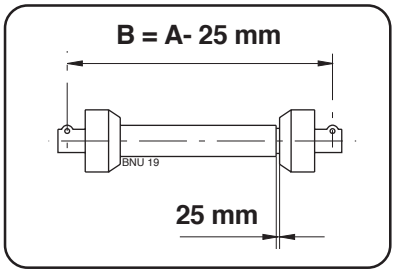
CONNECTING THE PROPELLER SHAFT

THE TRACTOR ENGINE SHOULD NOT RUN, THE MACHINE SHOULD BE CORRECTLY CONNECTED TO THE TRACTOR (See page 15).
IT IS FUNDAMENTAL TO HAVE A PROPELLER SHAFT OF APPROPRIATE LENGTH.

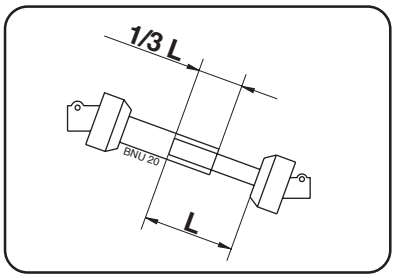


Measure the minimum distance (A) between the notch of the tractor P.T.O. and that of the shredder, when they are on the same axis.

Measure the distance of the propeller shaft, in the position of minimum extension (all closed).
The measure **B** should be smaller than **A** of at least 25 mm.
During work both inside that outside plastic pipes should not bump against heads.
If the propeller shaft is too long, **before cutting** metal pipes and guards, it is necessary to check that, when it is in the maximum extension position, inside metal pipes remain overlapped at least of 1/3 of the length (**L**).



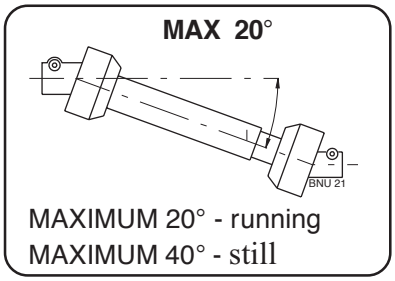
If the overlapping is smaller, there is too much difference between the minimum and maximum position of the transmission.
If this occurs, it is necessary to ask for longer lower connecting arm to space more the machine from the tractor.



Be careful to cut surface: trim the cut inside and outside, clean for eliminating chips and dirt, and grease with lithium grease.

Always check that the shaft is dimensioned according to the power of the machine declared.

Check that the propeller shaft does not take angles over the value admitted.



Check that the machine cannot be raised over the maximum dimension allowed by the shaft length: **it could come out.**

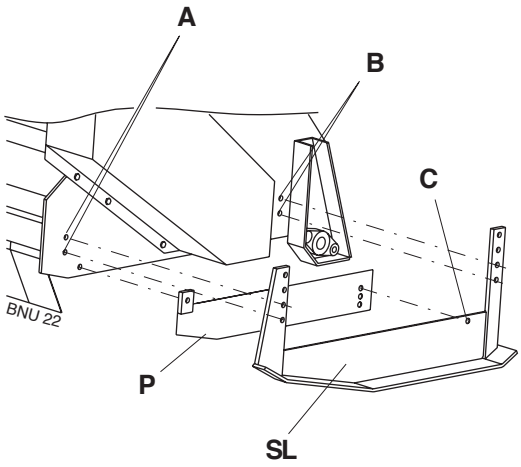
If the machine is connected to a tractor provided with tracks or without double clutch, a cardan shaft with free-wheel should be used to avoid the inertia of the shredder rotor stopping quickly the tractor-machine unit.

BLOCK THE ROTATION OF THE CARDAN JOINT PROTECTION WITH THE APPROPRIATE CHAINS.

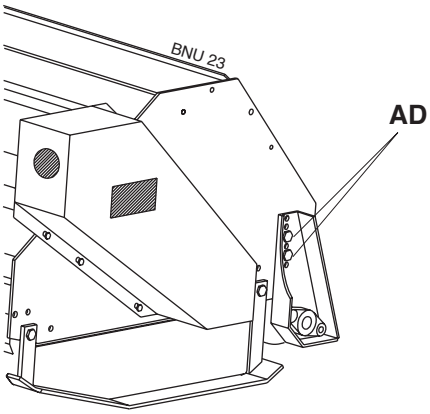
WORKING HEIGHT ADJUSTMENT

BLADES MUST NEVER TOUCH THE GROUND!
LEAVE AT LEAST 40 MM.

VERSION WITH SKIDS:
RAISE THE MACHINE SLIGHTLY FROM THE GROUND
Remove bolts (**A, B, C**) which secure skid (**SL**), to the machine and to guard (**P**).
On the skid (**SL**) select holes according to the height required, fit bolts (**A and B**) and screw them.
Fit bolt (**C**) into the guard hole (**P**), keeping the guard parallel to the lower edge of the side part.
Screw and tighten all bolts.

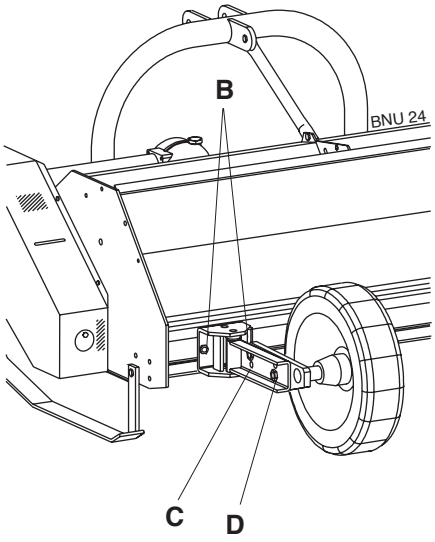


VERSION WITH ROLLER:
RAISE THE MACHINE SLIGHTLY FROM THE GROUND
Loosen bolts (**AS**) on one side, unscrew and remove bolts (**AD**) on the other side.
On the support select the holes right for the height desired, then fit bolts (**AD**) and screw nuts but do not tighten them.
Remove bolts (**AS**) and fit them into the holes corresponding to those selected on the other side.
Screw and tighten all bolts.



VERSION WITH WHEELS:
RAISE THE MACHINE SLIGHTLY FROM THE GROUND
Loosen bolt (**C**), uncrew and remove bolt (**D**) and select the suitable hole on the wheel arm so as to get the height desired; then fit bolt (**D**).
Tighten all nuts.
Perform the same operation on the other wheel.

TO ADJUST WHEEL TRACK:
RAISE THE MACHINE SLIGHTLY FROM THE GROUND
Loosen bolts (**B**), make the wheel block slide until it reaches the position required, then tighten bolts (**B**)**.**



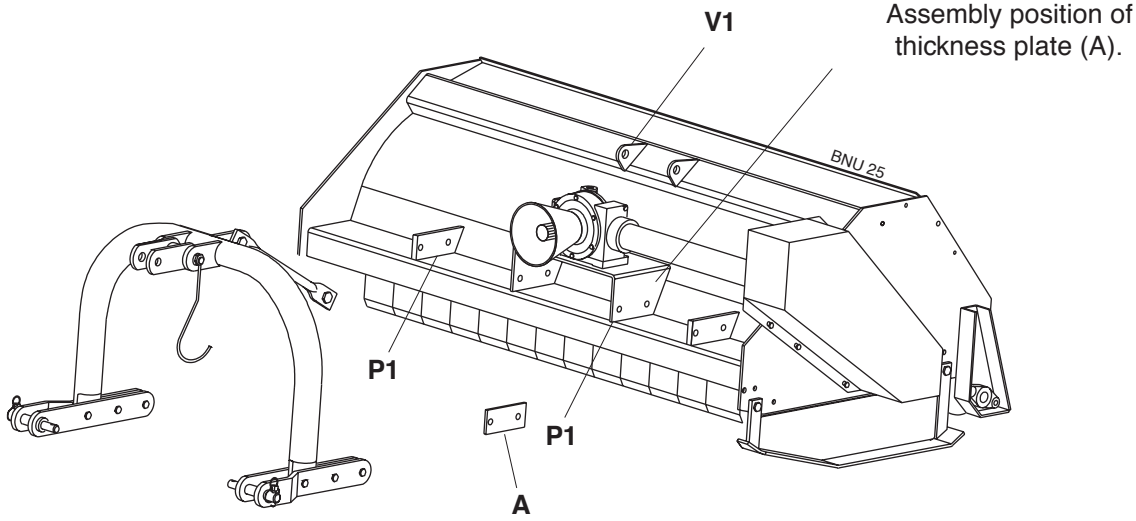
HOW TO DISPLACE THE DRAWBAR

If you need to change the working position with respect to the tractor track.

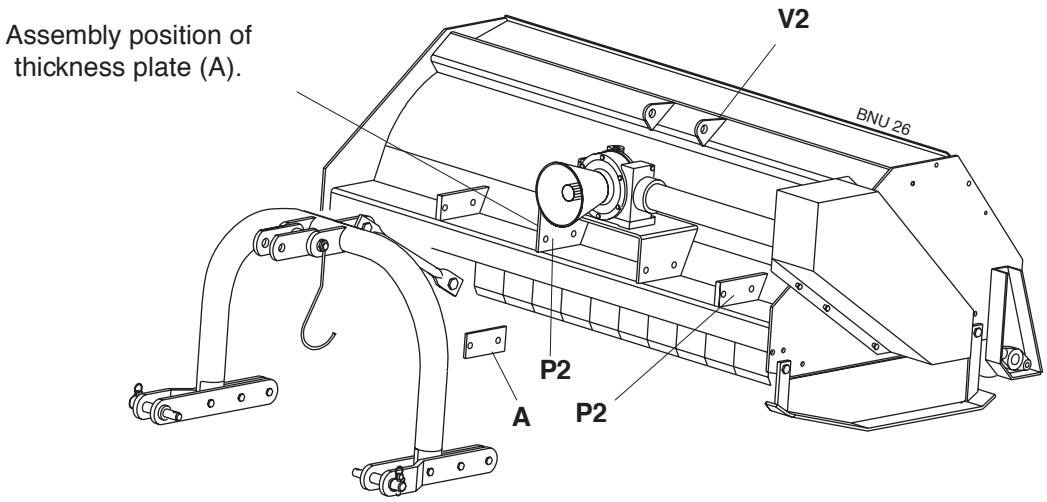
DISCONNECT TRACTOR P.T.O.
TURN OFF TRACTOR ENGINE.
TAKE THE KEY OFF THE DASHBOARD.
MAKE SURE ALL MOVING PARTS ARE IDLE.

1) Remove the machine from the tractor (See page 15).
2) Adjust hitch point position by removing the screws that secure the drawbar to the plates (**P1 and V1**) joined to machine frame; fit the drawbar by attacching it to the plates (**P2 and V2**); pay special attention to plate (**A**), **which adjusts any thickness variation of the lower connecting plates**.
3) Tighten bolts properly.
4) Attach the machine to the tractor (See page 15).

HITCH POINTS FOR DRAWBAR IN CENTRAL POSITION



HITCH POINTS FOR DRAWBAR SHIFTED



PARKING POSITION

DISCONNECT TRACTOR P.T.O.
TURN OFF TRACTOR ENGINE WHEN THE MACHINE IS RAISED FROM THE GROUND.
TAKE THE KEY OFF THE DASHBOARD.
MAKE SURE ALL MOVING PARTS ARE IDLE.

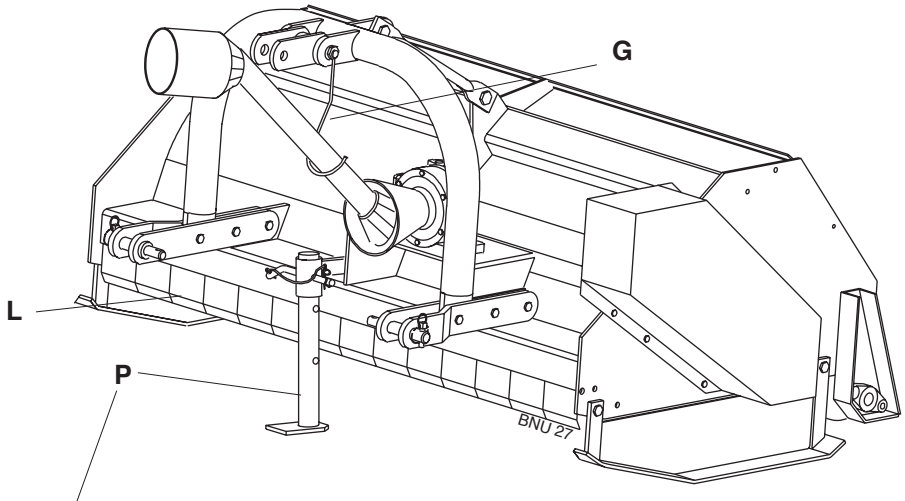
CHOOSE A STABLE, FLAT GROUND TO PERFORM THE FOLLOWING OPERATIONS

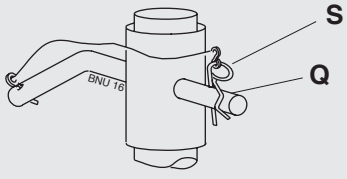
Lower foot (**P**).
Lower the elevator until the machine rests on the ground.
Disconnect propeller shaft from tractor P.T.O. and secure it to the suitable hook (**G**), so as to avoid damaging the guard.
Extract pins and move away the tractor.
Make sure the machine is slightly tilted forward so as to prevent backwater on flat parts when the machine is parked in the open.

INTERVENTIONS AT THE END OF SEASON

Before garaging the machine in a dry and protected place, some maintenance operations should be carried out:

1) Remove the Cardan shaft and carry out the maintenance separately (see Instruction handbook of the Cardan joint).
2) Wash carefully the machine, in particular inner parts, being sure to have removed completely every rests of earth or grass. Check the protections of the rotor and roller bearings.
3) Grease the rotor bearings, rotating the rotor manually, until the exceeding grease comes out from the inner part of the bearing supports cleaning inside.
4) Disassemble the roller supports, cleaning and greasing the bearings and spacers and checking that the bearing protections are intact.
5) Put a grease film on all parts where the paint or galvanization has been removed.
6) Remove the protection guard of the belts and clean inside.
7) Disassemble and check the knives and blades and their fastening elements.
8) Check the integrity of the protection straps (**L**) and pin safety laces.





SECURE ALL PINS WITH SAFETY PINS
REPLACE LOCKS IF DAMAGED.

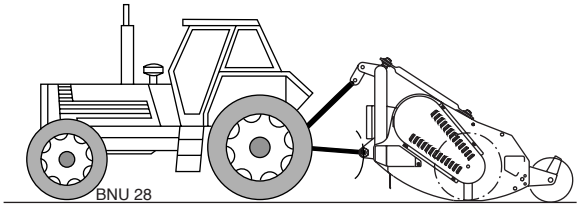
AIR NOISE EMITTED

AIR NOISE EMITTED

Data taken according to the following rules:

UNI 7712
AFNOR S 31-069
NF S 31-027

TRACTOR 80 CV



MACHINE: **BNU 125**				
	TRACTOR ONLY		TRACTOR+ MACHINE	
Tractor cab	OPEN	CLOSED	OPEN	CLOSED
Level of acoustic pressure: operator place dB(A)	89.2	81.4	94.8	83.4
Level of acoustic power: dB(A)	111.0		115.2	

MACHINE: **BNU 140**				
	TRACTOR ONLY		TRACTOR+ MACHINE	
Tractor cab	OPEN	CLOSED	OPEN	CLOSED
Level of acoustic pressure: operator place dB(A)	89.2	81.4	94.8	83.4
Level of acoustic power: dB(A)	111.0		115.2	

MACHINE: **BNU 160**				
	TRACTOR ONLY		TRACTOR+ MACHINE	
Tractor cab	OPEN	CLOSED	OPEN	CLOSED
Level of acoustic pressure: operator place dB(A)	89.2	81.4	94.8	83.4
Level of acoustic power: dB(A)	111.0		115.2	

MACHINE: **BNU 195**				
	TRACTOR ONLY		TRACTOR+ MACHINE	
Tractor cab	OPEN	CLOSED	OPEN	CLOSED
Level of acoustic pressure: operator place dB(A)	89.2	81.4	94.8	83.4
Level of acoustic power: dB(A)	111.0		115.2	

MACHINE:				
	TRACTOR ONLY		TRACTOR+ MACHINE	
Tractor cab	OPEN	CLOSED	OPEN	CLOSED
Level of acoustic pressure: operator place dB(A)				
Level of acoustic power: dB(A)				

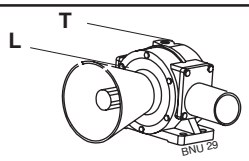
MAINTENANCE AND LUBRICATION

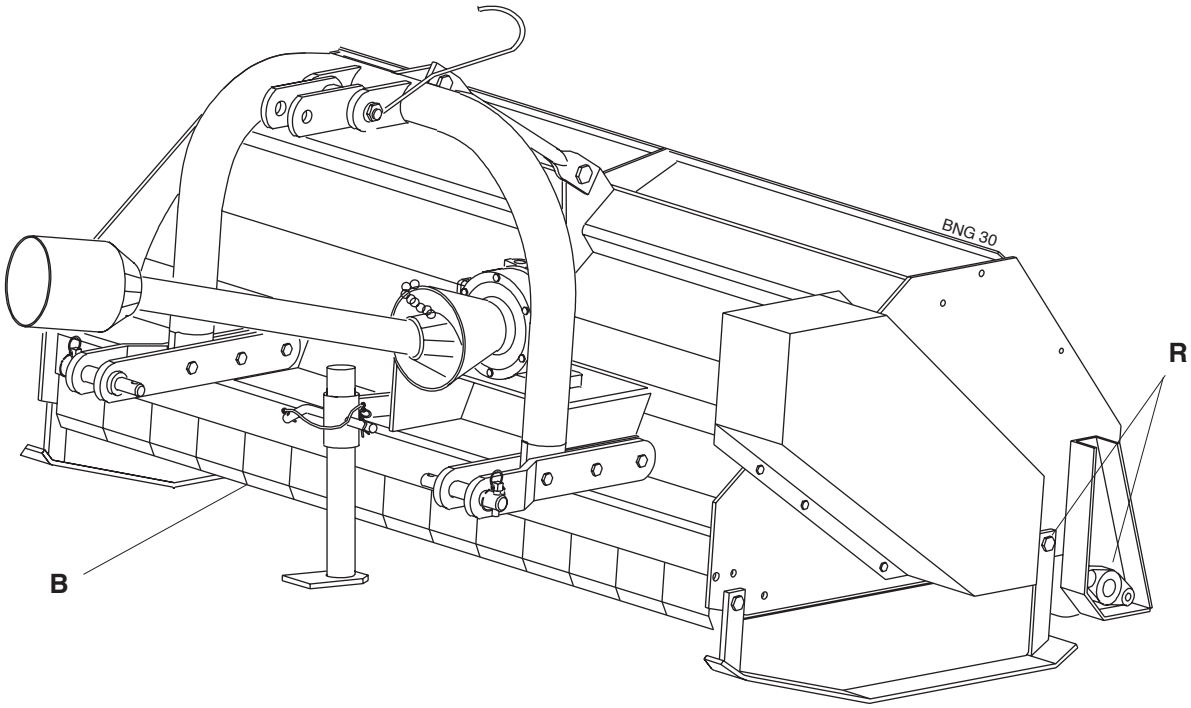
Every 8 hours clean and grease the cardan transmission, cross journals (through the suitable greasers), grooved sleeves, and guards, with lithium grease.

Oil BLASIA 460 ISO 460		BNU 125	BNU 140	BNU 160	BNU 195
Transmission unit	Quantity Lt:	1.6	1.9	1.6	1.9

GEAR UNIT
Change oil after **30-40 hours.**
Afterwards, change oil every
250 hours.
Use oil BLASIA 460 (ISO 460)

Every day check oil level.
Rest the machine horizontally and unscrew the main plug located on the rear side (**L**): oil shall touch the lower hole edge.
Make sure the unit is equipped with air drain plug (**T**).





The rear bonnet can be opened the check blades or rams, and their lock pins.
EVERY DAY CHECK THE CONDITION OF THESE PARTS.

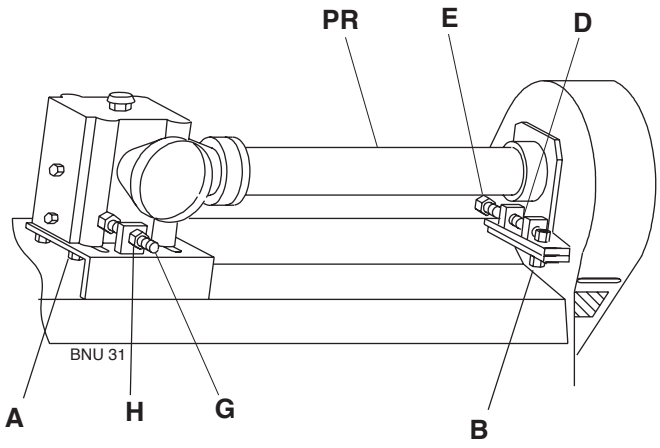
EVERY DAY CLEAN AND LUBRICATE SAFETY VANES (B).
MAKE SURE VANES ARE NOT WARPED AND RUN FREELY.

Grease bearings on roller and rotor (**R**) every **4 hours** with lithium grease.

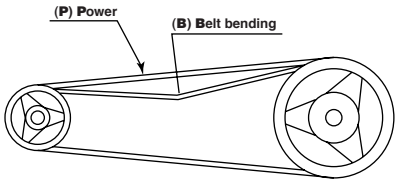
BELT TENSION

Every day check belt tension.

See the suitable slot on the guard side.



Machine	Belts	P (N)	B (mm)
BNU 125 - 140 160 - 195	SPBX 1500	25	7.2



Loosen bolts (**A**, no. **4**) and (**B**, no. **1**) which fasten transmission to shredder frame.
Loosen adjusting screw counternuts (**H** and **D**).
Turn adjusting screw (**E**) clockwise, and turn screw (**G**), anticlockwise, up to get the tension desired (See the table).
That operation allows transmission axis (**PR**) to be parallel to rotor axis.
Tighten bolts (**A** and **B**) and counternuts (**D** and **H**).
In order to check parallelism between transmission axis and rotor axis, follow the indications listed below:

IF THE MACHINE IS COUPLED TO THE TRACTOR, REMOVE THE CARDAN TRANSMISSION

Dismount the belt safety guard.
Put a scale on the edges of the rotor pulley and rotate it until it touches the edges of the other pulley.
Both pulley edges shall touch the scale; otherwise, screw or unscrew adjusting screw (**G**) accordingly, after loosening screws (**A** and **B**).

Our shredders - series BNU - are equipped with belts type SPBX and **their tension must be restored within the first 3 working hours.**
Afterwards, check belt tension periodically.
If rotor rotation speed decreases and belt tension can not be restored correctly, **change belts**.

GENERAL INSTRUCTIONS FOR BLADE OR RAM REPLACEMENT

Daily check the condition and wear of blades and rams and their pins.
If you notice irregular consumptions or breaks, carry out immediately the part replacement.

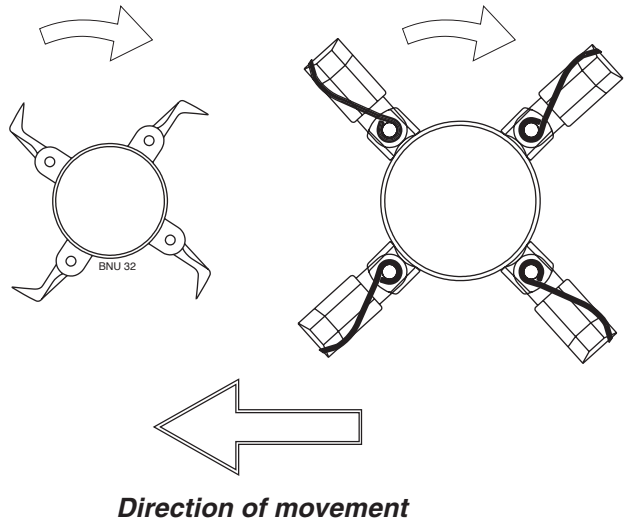
USE ONLY ORIGINAL SPARE PARTS.
BEFORE CARRYING OUT REPLACEMENT, IT IS NECESSARY TO REMOVE THE MACHINE FROM THE TRACTOR AND BEND IT FORWARD, MAKING IT LAYING ON COUPLING FOR MODELS WITHOUT BONNET.

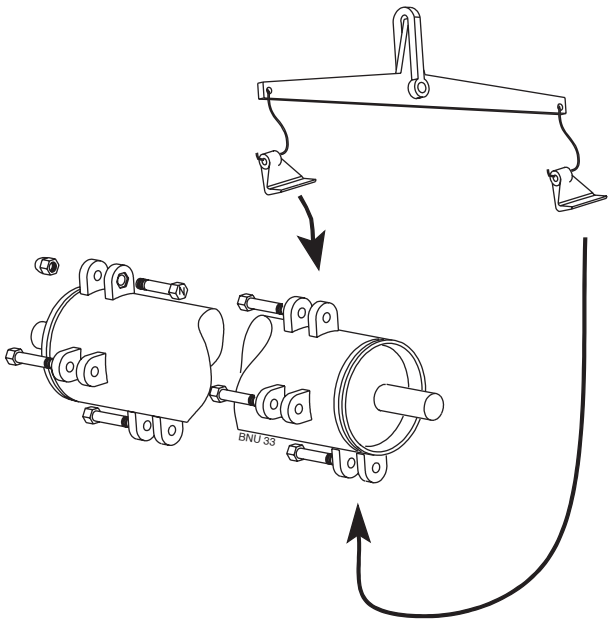
For partial replacement:
Besides the blade or ram pair worn or broken, it is necessary to substitute the blade or ram pair diametrically opposed for not changing the already existing balancing.

For total replacement:
Small differences in weight of parts are unavoidable.
Weigh the single blade or ram blocks, chosing pairs of the same weight.
These pairs should be assembled on the rotor in diametrically opposed positions.

CHANGE THE SELFLOCKING NUTS EVERY TIME
Tighten the M16 nuts with a torque wrench of 100 Nm.
Tighten the M20 nuts with a torque wrench of 250 Nm.

After the adjustment check that there is a small end play (1-2 mm) between blades or rams and their supports.
After the repair, **for checking the balancing**, connect the tractor.
Keeping the machine raised from the ground, slowly increase the P.T.O. speed until reaching the R.P.M.
If the repair has been carried out correctly the machine should rotate at a R.P.M. without strong vibrations.





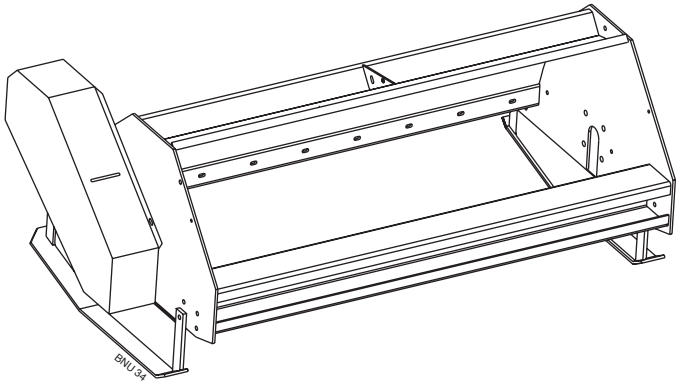
If the machine assembles the Y blades with ventilation blades, it is necessary to include also them in the weighing.
If ventilation blades are used, check the right direction of assembly.
(See drawing).

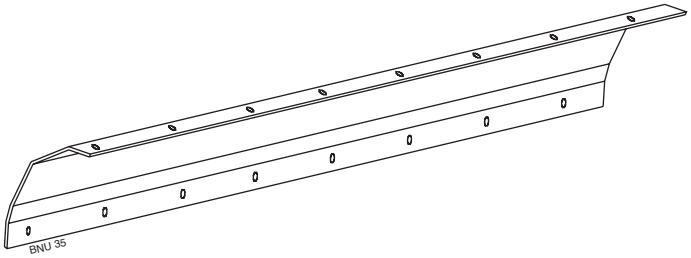
ACCESSORY: WEARING METAL SHEET

DISCONNECT TRACTOR P.T.O.
TURN OFF TRACTOR ENGINE WHEN THE MACHINE
IS RAISED FROM THE GROUND.
DISCONNECT THE MACHINE FROM THE TRACTOR AND TILT IT FORWARD BY RESTING IT ON THE HITCH, IF THE MACHINE IS NOT EQUIPPED WITH BONNET.

METAL SHEET ASSEMBLY:
Remove the lower counterblade.
Position the metal sheet and the counterblade, and fit nuts and bolts.
Usually nuts are fitted at the external side.
Fit the upper row of fastening bolts by drilling the sheet if necessary (holes: D. 10 mm).

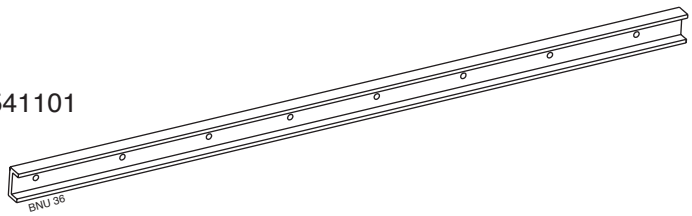
MACHINE FRAME





WEARING METAL SHEET
For BNU 160 and BNU 195

COUNTERBLADE
To be used with wearing metal sheet
BNU 125 section 40x20 U-shape = 1200 Code: 1541101

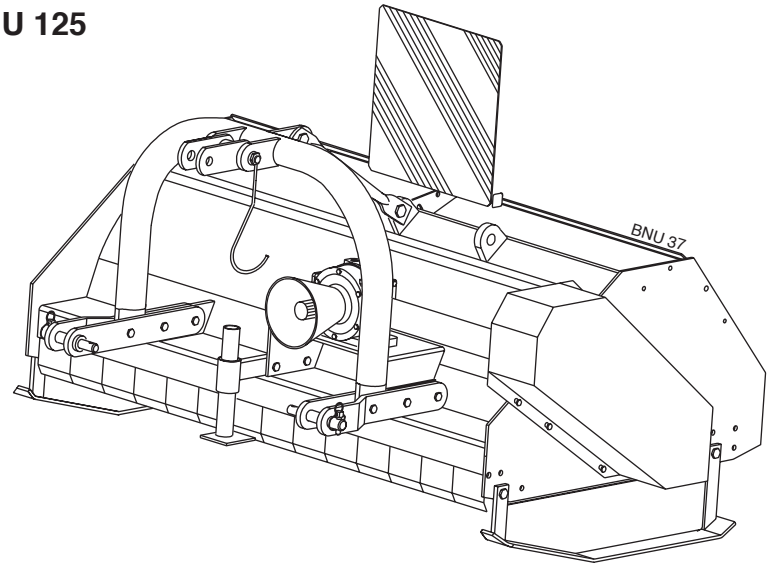


COUNTERBLADE
To be used with wearing metal sheet
BNU 160 section 40x20 U-shape = 560 Code: 1551105
BNU 195 section 40x20 U-shape =1920 Code: 1561103

BEFORE STARTING THE MACHINE, MANUALLY TURN THE ROTOR SO AS TO MAKE SURE THAT BLADES DO NOT TOUCH THE FRAME.

FITTING THE WARNING SIGNS FOR ROAD CIRCULATION

MACHINE: BNU 125



EXAMPLE of application of reflector panels approved by the highway code.

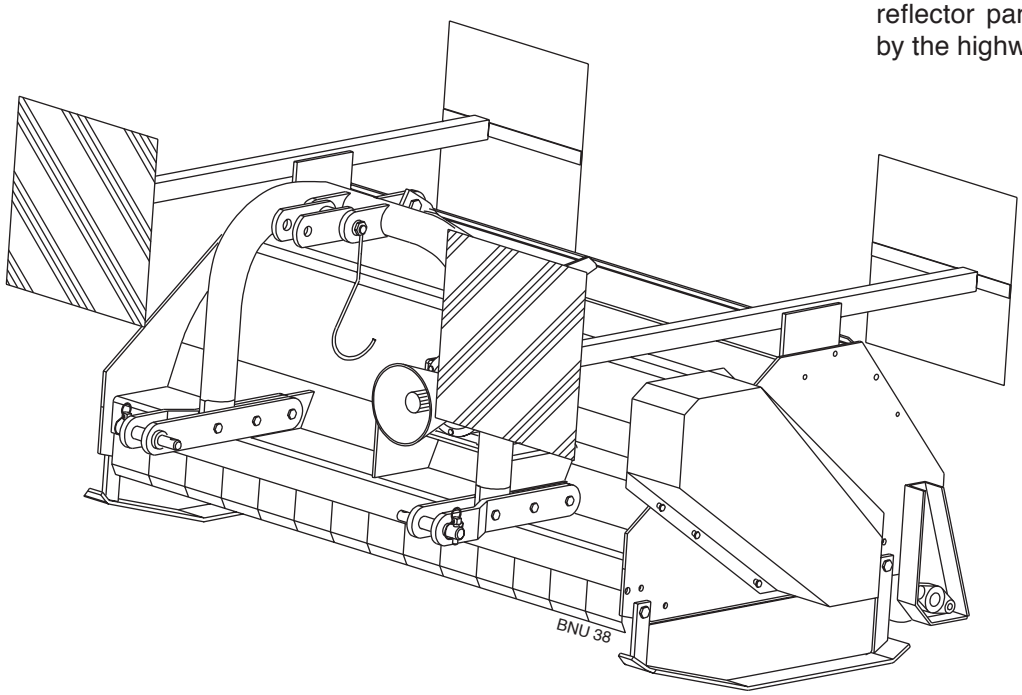
BNU machines coupled to the tractor, are allowed to circulate on public road by observing the following precautions:

1) The drawbar must be placed centrally.
2) Elevator side tie rods must be tensioned.
3) Approved reflector panels must be installed on the machine by means of brackets to be placed on the machine sides.
4) Regarding the number and position of the panels it is **NOT** possible to give general information. They should be defined according to the single characteristics.

IN CASE OF ROAD HAULAGE OF THE MACHINE YOU MUST: FIT THE WARNING SIGNS REQUIRED AND APPROVED BY THE HIGHWAY CODE OF YOUR COUNTRY.

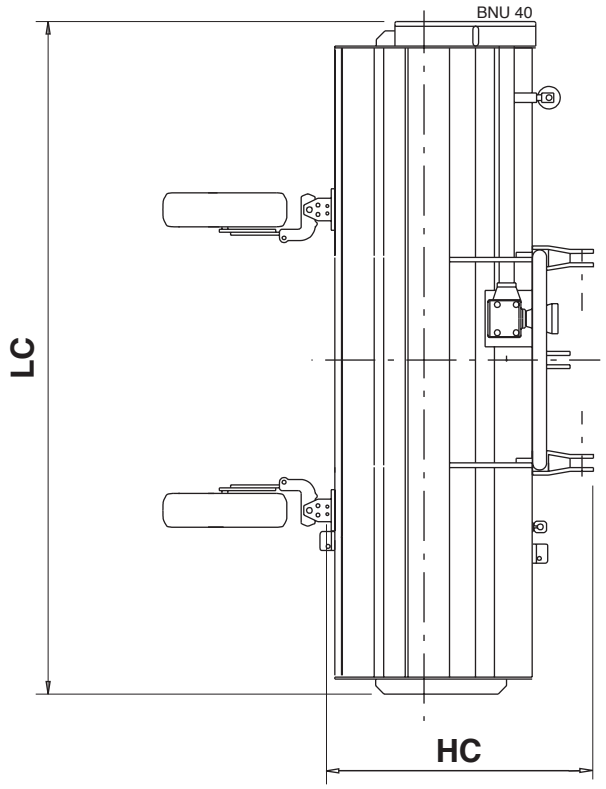
MACHINES: BNU 160 - 195

EXAMPLE of application of reflector panels approved by the highway code.



MACHINE OVERALL DIMENSIONS

MACHINE	LC mm	HC mm
BNU 125	1450	990
BNU 140	1740	990
BNU 160	1800	990
BNU 195	2190	990



TROUBLESHOOTING

Problem	Cause	Remedy
Excessive vibrations.	A) Blades or rams worn or broken. B) Blades or rams locked by pins. C) Rotor balancing not correct. D) Rotor bearings worn.	Replace worn-out or broken parts. Clean and grease pins. Check the weight of blade or ram units. Dismount and replace bearings and seals.
Poor cutting due to rotor low speed.	A) Belt tension really poor. B) Worn-out belts.	Adjust belt tension. Replace belts.
Belt overheating.	A) Belt tension not correct. B) Transmission axis and rotor axis not aligned.	Check tension. Check alignment.
Bevel gear pair overheated.	A) Lack of oil B) Oil spent.	Top up oil. Replace.
Quick wear of blades or rams.	A) Working position too low, blades or rams are touching the ground.	Adjust the height of rotor with respect to the ground.
Oil leaking from transmission unit, belt side.	A) Oil retainer broken or worn.	Replace oil retainer.
Roller or wheel supports warped.	A) Roller or wheel supports suffered from lateral strain.	Raise up the machine from the ground when you change gear.
Safety vanes are warped.	A) In order to reach the working position, the raised machine (trasport position), was lowered **onto** the material to shred.	Make the machine get to its working position **before** shredding.

GUARANTEE

NOBILI S.p.A. Via Circonvallazione Sud 46, 40062 Molinella (Bologna) Italy, warrants this product against defects in materials and workmanship, under the condition the machine is used according to the instructions provided in the use and maintenance guide, and with the restrictions mentioned below.
The guarantee period is 12 (twelve) months commencing on the date of delivery of the machine to the customer; such date shall be proved by the stamp on the **guarantee card** correctly filled in and returned to the Nobili offices.
The guarantee is restricted to the sole replacement, ex-works, free of charge, of the parts held to be defective by our Service Centre.

Not covered by this guarantee:
- Parts of the machine not manufactured by Nobili (ex.: tyres, transmission belts, cardan shafts, gear boxes, etc.); such parts are covered by their own Manufacturer's guarantee.
- Parts subject to normal wear when the machine is used correctly.

The guarantee becomes void if:
- Modifications have been performed without prior written permission of Nobili.
- Repairs are undertaken by unauthorized persons.
- Original Nobili parts are not used.
- Maintenance is performed improperly.
- The machine is not used according to the **"Intended Use"** specified in the user's manual.
- Machine guards are removed. Guards shall never be removed: they shall be periodically checked and, if damaged, their original condition shall be restored.
- Safety instructions listed in the user's guide are not respected.

Nobili shall not be liable for:
- Damages in connection with transport or unloading of the machine.
- Incidental or consequential damages resulting from broken parts or non-use of the machine.

The User is in charge of:
- Usual machine maintenance, lubrication, topping up of oil level, adjustments.
- Transport costs and labour costs for disassemble, assembly and adjustment of the parts subject to replacement under the guarantee.

Guarantee Application:
The guarantee application shall be filled in by the seller and sent to Nobili within 4 weeks since the damage occurred, providing: name and address of the user, type, model and serial number, date of purchase, date on which the damage occurred, actual working hours, circumstances and supposed causes.
The parts shall be sent to Nobili and shall be inspected by the Nobili Technical Department in order to authorise the replacement of the part.

Modifications:
Nobili reserves the right to change the machines without prior notice to the customers, and without changing the machines already in use or the machines already put up for sale.

NOBILI

Il nome che conta

RAPPRESENTATO DA:
REPRESENTED BY:
REPRESENTE PAR:
VERTRETEN DURCH:

40062 MOLINELLA (BO) ITALY - Via Circonvallazione Sud, 46
TEL. 051/88.14.44-45 TELEFAX 051 / 88.27.03